

REMARKS

Applicant respectfully requests reconsideration of the present Application in view of the foregoing amendments and in view of the reasons that follow. Claims 9, 11-15, 19, and 20 have been rejected. Claims 9, 11 and 13 have been amended, and no new matter has been added. Accordingly, following entry of the above amendment, Claims 9 and 11-20 are pending.

Applicant appreciates the Examiner indicating that Claims 16-18 contain allowable subject matter. While the Applicant agrees that Claims 16-18 recite a combination of subject matter that is patentable over the cited references, such claims have not been rewritten in independent form at this time. Applicant does not necessarily agree with or acquiesce in the statement of reasons for allowance given by the Examiner. Moreover, the Applicant notes that the recited subject matter as well as various other subject matter and/or combinations of subject matter may be patentable for other reasons than those given by the Examiner. The Applicant expressly reserves the right to set forth additional and/or alternative reasons for patentability and/or allowance with the present Application or in any other future proceeding.

Claim Rejections – 35 U.S.C. § 103

Claims 9, 11-15, and 19-20 are rejected under 35 U.S.C. § 103(a). Claim 9 was rejected as being unpatentable over U.S. Patent Appl. Pub. No. 2002/0101243 (“Mentgen”) in view of U.S. Patent No. 5,949,217 (“Okada”) and U.S. Patent Appl. Pub. No. 2005/0089750 to (“Ng”) and further in view of U.S. Patent No. 4,775,827 to (“Ijntema”). Claims 11-15 were rejected as being unpatentable over Mentgen in view of U.S. Patent No. 5,381,096 to (“Hirzel”) and Ng. Claims 19-20 were rejected over Mentgen in view of Okada and Ng and further in view of Hirzel.

These rejections should be withdrawn, because the cited references fail to disclose, teach, or suggest the subject matter recited in the claims.

For example, Mentgen, in combination with any of the other cited references, does not disclose, teach, or suggest “determining the charge drawn ... as a function of an exponential function of a charging time from the start of the drawing of the charge, wherein the exponential function includes a time constant defined at least as a function of the energy storage battery type and of the temperature of the electrolyte measured by [a] device for measuring battery temperature,” as recited in amended independent Claims 9 and 11.

Instead of disclosing an exponential function that depends on the charging time of the battery, Mentgen discloses the use of an exponential function that depends on the duration of a resting phase prior to the measurement and a time constant of the transient response of no-load voltage (see Mentgen at paragraph [0017]). As described in Mentgen, the use of this exponential configuration creates a “weighting factor” (see Mentgen at paragraphs [0007] and [0009]). Mentgen states that “[w]eighting factor g_{ew} is selected as a function of an accuracy, in particular a known or estimated accuracy, of open-circuit voltage U_r thus determined, which in turn depends on duration T_r of the resting phase.” (Mentgen at paragraph [0017]). Accordingly, Mentgen does not disclose, teach, or suggest determining a charge drawn by utilizing an exponential function that depends on the charging time.

Further, Mentgen does not disclose, teach, or suggest a time constant that is defined “at least as a function of the energy storage battery type and of the temperature of the electrolyte measured by the device for measuring battery temperature.” The Examiner stated at pages 2-3 of the Office Action that “it is inherent that the measuring the battery temperature incorporates the battery electrolyte, when the battery is hot so as [sic] the electrolytes.” The Applicant respectfully submits that “an open-circuit voltage which depends on the battery temperature,” which is disclosed by Mentgen in paragraph [0018] is not the same as “measuring the temperature of the electrolyte,” which is utilized by a time constant in an exponential function to determine the charge drawn because an open-circuit voltage is different than the charge drawn.

Okada, Ng, Ijntema, and/or Hirzel, whether taken alone or in proper combination with Mentgen, also do not disclose teach, or suggest an “exponential function” that depends on the

“charging time from the start of the drawing of the charge” or a “time constant defined at least as a function of the energy storage battery type and of the temperature of the electrolyte measured by [a] device for measuring battery temperature,” as recited in independent Claims 9 and 11.

Okada discloses a method of determining the remaining capacity of a rechargeable battery. The Examiner stated on page 3 of the Office Action that “it would have been obvious at the time of the invention to a person of ordinary skill in the art to add a temperature measuring means in Mentgen et al. device in order to avoid battery overheating.” The Applicant respectfully submits that there is no suggestion in Okada to use the “temperature measuring means” to define the time constant as recited in the claims as “the time constant defined by the temperature of the electrolyte measured by the device for measuring battery temperature.”

Ng discloses a temperature control apparatus for a high energy electrochemical cell where “the duration of time required to bring a battery to a specified operating temperature in a cold start situation be as short as possible. This duration of time can be characterized by a time constant ... the time constant is dependent on a number of factors, including ambient air temperature, heating element wattage, coolant type, coolant amount and coolant flow rate, and battery type and battery thermal mass, among other factors.” (Ng at paragraph [0102]). The Applicant respectfully submits that a “time constant” for a “cold start situation” is materially different than a “time constant” used in “determining the charge drawn” based on an “exponential function.”

Ijntema discloses a simple device for indicating the charge status of a battery where “the charge status is determined by measuring the elapsed discharging time and/or charging time and expressing them as a fraction of nominal discharging time and/or charging time.” (Ijntema, col. 2, lines 29-35). The Applicant respectfully submits that utilizing “charging time and expressing them as a fraction” is different than “determining the charge drawn as a function of an exponential function of a charging time from the start of the drawing of the charge, wherein the exponential function includes a time constant defined at least as a function of the energy storage battery type and of the temperature of the electrolyte.”

Hirzel discloses a method for measuring the state-of-charge of a battery where “a computer program code designed to carry out a method when the computer program is run using a processor device.” (Office Action, page 5). The Applicant respectfully submits that Hirzel does not disclose, teach, or suggest “determining the charge drawn as a function of an exponential function of a charging time from the start of the drawing of the charge, wherein the exponential function includes a time constant defined at least as a function of the energy storage battery type and of the temperature of the electrolyte.”

The Examiner has cited to no teaching in the prior art of a computation device designed to carry out a method comprising “determining the charge drawn as a function of an exponential function of a charging time from the start of the drawing of the charge, wherein the exponential function includes a time constant defined at least as a function of the energy storage battery type and of the temperature of the electrolyte measured by the device for measuring battery temperature.” The Examiner's failure to provide a citation to the art of record is not surprising, because the only evidence in the record of a teaching of such a feature is contained in the present Application. Of course, any reliance on the present Application would constitute impermissible hindsight reasoning.

The Applicant respectfully requests withdrawal of the rejection of amended Claims 9 and 11, since Mentgen in combination with Okada, Ng, Ijntema and/or Hirzel does not disclose, teach or suggest a computation device designed to carry out a method comprising “determining the charge drawn as a function of an exponential function of a charging time from the start of the drawing of the charge” and “wherein the exponential function includes a time constant defined at least as a function of the energy storage battery type and of the temperature of the electrolyte measured by [a] device for measuring battery temperature,” as recited in amended Claims 9 and 11.

Claims 12-15 and 19-20 depend variously from Claims 9 and 11 and are allowable therewith, for at least the reasons set forth above, without regard to the further patentable

limitations set forth in such claims. Reconsideration and withdrawal of the rejection of Claims 9, 11-15, and 19-20 is respectfully requested.

Conclusion

The Application is now believed to be in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present Application.

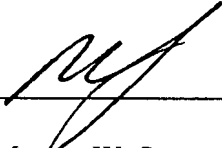
Further, Applicant respectfully puts the Patent Office and all others on notice that all arguments, representations, and/or amendments contained herein are only applicable to the present Application and should not be considered when evaluating any other patent or patent application including any patents or patent applications which claim priority to this patent Application and/or any patents or patent applications to which priority is claimed by this patent Application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this Application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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